Message

From: Reddy - CDPHE, Patrick [patrick.reddy@state.co.us]
Sent: 4/16/2015 2:10:03 PM
To: Brad Pierce - NOAA Federal [brad.pierce@noaa.gov]
CC: Gabriele Pfister [pfister@ucar.edu]; huys@clarkcountynv.gov; Andrew Langford-NOAA Federal [andrew.o.langford@noaa.gov]; Tonnesen, Gail [Tonnesen.Gail@epa.gov]; Paul Fransioli [Paul.Fransioli@clarkcountynv.gov]; Hoag, Katherine [Hoag.Katherine@epa.gov]; Bohnenkamp, Carol [Bohnenkamp.Carol@epa.gov]; Payton, Richard [Payton.Richard@epa.gov]; Patrick.Reddy@dphe.state.co.us; Matichuk, Rebecca [Matichuk.Rebecca@epa.gov]
Subject: Re: analysis of June 1-3, 2014 stratospheric intrusion
Attachments: 080196000-44201-04152015.png

Thanks Brad,

I have attached a plot of minute O3 concentrations for Mines Peak (around 12,500 feet MSL) west of Denver for yesterday. O3 was between 70 and 76 ppb for a while during the day.

Pat

On Thu, Apr 16, 2015 at 7:56 AM, Brad Pierce - NOAA Federal <brad.pierce@noaa.gov> wrote:
I've attached the RAQMS 12hr FX for 00Z April 16, 2015 along with verification for selected monitoring sites.

Colorado Springs, CO appears to have seen the most significant impacts of the SI event, but just made it to 65ppbv at the surface.

No significant impact further north (Denver and Greeley,CO)

Brad

On Wed, Apr 15, 2015 at 10:20 AM, Gabriele Pfister <pfister@ucar.edu> wrote:
To go along with Brad's plots, I attach the MOZART stratospheric ozone tracer for 15 April 00 UTC and 16 April 00 UTC 2014. Both surface and 4km model levels.

Gabi

On Wed, Apr 15, 2015 at 9:09 AM, Brad Pierce - NOAA Federal <brad.pierce@noaa.gov> wrote:
RAQMS 12hr FX for 00Z April 15 (6:00pm Mountain Time on April 14) shows surface impacts of ~65ppbv at Zion NP in UT and Death Valley NP in CA.

RAQMS 36hr FX for 00Z April 16 (6:00pm Mountain Time on April 15) shows similar surface impacts in SE Colorado.

RR-Chem (with RAQMS LBC) shows surface impact further SE at 00Z April 15 and weaker surface impacts at 00Z April 16.

Note that there was an AJAX flight yesterday to the south of San Francisco that sampled this SI event.

Brad

On Tue, Apr 14, 2015 at 12:35 PM, Brad Pierce - NOAA Federal <brad.pierce@noaa.gov> wrote:
RAQMS shows the strongest surface impact tomorrow evening (00Z April 16 or 6:00pm Mountain, April 15) over SE Arizona and NE New Mexico (attached).

Brad

On Tue, Apr 14, 2015 at 12:27 PM, Jean-Paul Huys <huys@clarkcountynv.gov> wrote:

We will keep an eye on the Angel Peak monitor (8,400 ft)

There is also a met station on the peak, so we can check RH

Jean-Paul

From: Reddy - CDPHE, Patrick [mailto:patrick.reddy@state.co.us]
Sent: Tuesday, April 14, 2015 10:22 AM
To: Andrew Langford-NOAA Federal
Cc: Tonnesen, Gail; Jean-Paul Huys; Paul Fransioli; Hoag, Katherine; Bohnenkamp, Carol; Payton, Richard; pfister@ucar.edu; brad.pierce@noaa.gov; Patrick.Reddy@dphe.state.co.us; Matichuk, Rebecca
Subject: Re: analysis of June 1-3, 2014 stratospheric intrusion

I have attached assorted forecast soundings for sites in CA, NV, AZ, and CO. The intrusion shows up as a dry zone aloft with a layer of slightly increased stability. We may see some higher concentrations at high elevation sites in Colorado, but probably will not have exceedances.

The intrusion could be more significant at favored, higher elevation areas of NV, southern CA, UT, and AZ.

Pat

On Tue, Apr 14, 2015 at 10:52 AM, Andrew Langford-NOAA Federal <andrew.o.langford@noaa.gov> wrote:

Looks significant for Nevada and Utah, but not so much for the Front Range.

-Andy

On Apr 14, 2015, at 10:33, Reddy - CDPHE, Patrick <patrick.reddy@state.co.us> wrote:

Hi all,

Ryan, Scott, and I are expecting a significant stratospheric intrusion event over much of the southwest US today and tomorrow. Here is a link to the current IDEA intrusion animation. More products to follow.

http://cimss.ssec.wisc.edu/idea-i/USozone/index.php?action=view_animation

Pat

On Tue, Apr 14, 2015 at 9:49 AM, Tonnesen, Gail <Tonnesen.Gail@epa.gov> wrote:

Hi All,

Thanks for volunteering to work on the analysis of the June 1-3 2014 event, and sorry I've been slow kicking this off.

Hopefully you were able to access the share point page – if not, please let me know.

One goal is to identify the most useful data sets and analyses so that we can develop an analysis with less time and effort. Please take a look at the EPA Technical Support Document (TSD) for the WY 2012 approval which summarizes the analyses that EPA found especially useful. I also listed these below. If you have comments or suggestions for deletions or additions, please reply to all. I'd like to develop and outline of recommended plots, and then see if we can complete some of these analyses before the call next Tuesday.

Brad – some of the tools that you've been developing might be especially useful and I'd appreciate your suggestions on which to include.

The Wyoming SI EE submission, EPA TSD and EPA concurrence letter are all near the bottom of this page:

http://www.epa.gov/ttn/analysis/exeventstable.htm

List of plots included in the EPA TSD

Hourly time-series plot of observed O3 (and other monitored data) at each monitor for June 1-3

Daily AQI plots (see Richard's PPT on sharepoint).

GOES total column O3

AIRS Total Column CO and 618 mb CO

Historical data assessment for O3 at the monitor sites.

North American Regional Reanalysis Image

Rapid Refresh (RAP) Model 20-km, 0-hour analysis

RAP 0-hour analysis showing IPV cross-section

NOAA HYSPLIT transport run, back trajectories, showing both vertical and horizontal transport from the intrusion location

RAP 20-km 500 mb heights in meters, 1-PVU blue isolines, 625 mb RH <= 30%, and EPA AQS Daily Max 8-hour O3

700-500 mb lapse rate (color scale) and 625 mb IPV

National Weather Service (NWS) Upper Air Sounding

Upper Air Meteorology Charts

8-hour Ozone Readings Plotted Against Monitoring Site Elevation

Thanks,

Gail

303-312-6113

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Patrick J. Reddy
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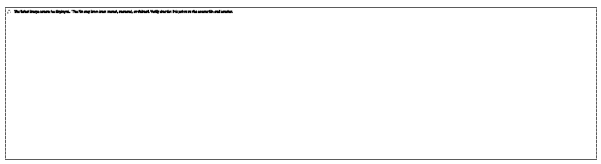

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The contents of this message are mine personally and do not necessarily reflect any position of NOAA.

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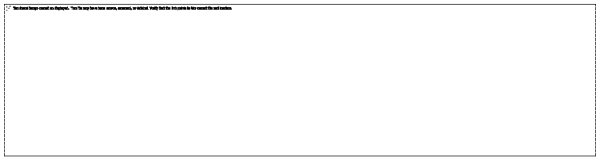

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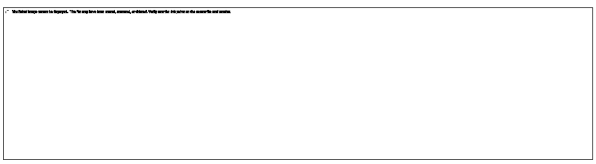

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